F. No. J-14011/2/2014-IA-II (N)
Government of India
Ministry of Environment & Forests
(I.A. Division)

Paryavaran Bhawan,
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Dated: 5th June, 2014

To,

Shri G.K. Sharma, Executive Director,
National Power Corporation of India Ltd.
Nabhikya Urja Bhavan, Anushaktinagar,
Mumbai – 400 094, Maharashtra
(E-mail: gksharma@npcil.co.in)

Subject: Mahi Banswara Rajasthan Atomic Power Project (4x700 MWe PHWR) at District Banswara, Rajasthan by Nuclear Power Corporation of India Ltd. (NPCIL) – reg.

Sir,

Kindly refer to your letter no. NPCIL/ED(NL)/Banswara/2014/M/17 dated 27th March, 2014 along with the application in prescribed format (Form-I) and Pre-feasibility Report regarding the above mentioned project.

2. The proposal for Mahi Banswara Rajasthan Atomic Power Project (4x700 MWe PHWR) at District Banswara, Rajasthan by Nuclear Power Corporation of India Ltd. (NPCIL) was considered in the 17th Meeting of the Expert Appraisal Committee (Nuclear) held at the Ministry of Environment & Forests, New Delhi on 6th May, 2014. A township is also proposed to be set up as part of this project. The proposal has, therefore, been considered as an integrated proposal.

3. Total project area is 623 ha for the project and 70 ha. for township & CISF Colony. 107.57 ha forest land is involved and have applied to State Govt. of Rajasthan for the approval of forest land vide application No. 311 on dated 24th February, 2014. M.P. State border is at 8 km. In-principle approval for setting up Nuclear Power Plant at Mahi-Banswara site has been accorded by the Department of Atomic Energy, GOI, vide letter No. 1/5 (5)/2010-Power/9100 dated 17th August, 2011. Pundia and Bunder rivers are at 2.5 and 9 kms. Total 2,307 people will be affected. No litigation case is in pending. Total estimated cost of the Stage-I will be Rs. 11,250.00 Crores and completion cost as Rs. 16,650.00 Crores (for 2 units only).

4. No conventional pollutants like SPM, SO_2, NOx etc. will be generated by the nuclear plant. Total water requirement from Mahi-Bajajsagar Reservoir for the plant as well as township will be 782 MLD. No ground water will be used. A sewage treatment plant (STP) with 'zero' discharge will be provided for township at project area. Liquid effluent treatment plant will be installed. Radioactive liquid effluent will be treated to achieve AERB specifications before discharge. Radioactive solid waste will be segregated, conditioned, treated and stored as per AERB specifications in Near Surface Disposal Facility (NSDF) within exclusion zone boundary. A green belt will be developed in 33 % area. Rehabilitation and Resettlement (R&R) will be carried out as per recommendations of Rajasthan Government.

5. Based on the presentation made, the Committee (Nuclear) prescribed the following TORs for undertaking detailed EIA study:

i. A note on site selection should be included in the EIA report.
ii. A copy of the site clearance accorded by the Atomic Energy Regulatory Board (AERB).
iii. The data contained in the EIA report should be for the ultimate capacity of the plant.
iv. All the corner coordinates of the plant site as well as the township with toposheet should be given.
v. Distance between the boundary of two super critical thermal power plants at Wagatalab and Phephar and proposed nuclear power plant.
vi. A copy of the application submitted to the State Government of Rajasthan for forest land approval. A note on follow-up of Ministry's OM No. J-11013/41/2006-IA.II (I) dated 9th September, 2011 and 18th May, 2012 regarding procedure to be followed where forest land is involved.
vii. The impact of the project should include both terrestrial as well as aquatic components including sacred grooves and Bheels.
viii. The study area should cover an area of 10 km radius around the proposed site for conventional pollutants and 30 km radius for radiological parameters.
ix. Impact of 2 thermal power plants proposed within 10 km. on the nuclear power plant and vice versa should also be incorporated.
x. Land use of the study area as well as the project area shall be given separately.
xi. Location of any national park, sanctuary, elephant/tiger reserve (existing as well as proposed), migratory routes, biosphere reserve, heritage site, eco-sensitive areas, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden.
xii. Documentary proof indicating that Mahi-Bajaj Sagar Reservoir is one of the important wetland of Rajasthan but does not fall under Ramsar Wetland site.
xiii. Land requirement for the project along with usage for different purposes should be given. It should also give information relating to as well as details of township.
xiv. The EIA report should also include the process details.
xv. Design details of incinerator as per CPCB guidelines.
xvi. Location of intake and outfall points (with coordinates) should be given.
xvii. Topography of the area should be given clearly indicating whether the site requires any filling. If so, details of filling, quantity of fill material required, its source, transportation etc. should be given.
xviii. Impact on drainage of the area and the surroundings should be given.
xix. Information regarding surface hydrology and water regime and impact of the same, if any due to the project should be given.
xx. One season site-specific meteorological data shall be provided. One complete season AAQ data (except monsoon) to be given along with the dates of monitoring for the purpose of the EIA report for obtaining environmental clearance; however, data collection should continue for the entire one year (three seasons). The parameters to be covered shall include PM_{10}, $PM_{2.5}$, SO_2 and NO_X. Besides, conventional pollutants information on long lived radio nuclides and background natural radio activity, gross alpha and gross beta levels should also be given. Food chain sample matrix chosen for base line survey should include inter alia milk samples from the study area. The location of the monitoring stations should be so decided so as to take into consideration the pre-dominant downwind direction, population zone and sensitive receptors including reserved forests. There should be at least one monitoring station in the upwind direction. There should be at least one monitoring station in the pre dominant downwind direction at a location where maximum ground level concentration is likely to occur. Baseline data on noise levels may also be generated.
xxi. Detailed biological study covering both terrestrial and aquatic environment should be carried out and details furnished in the EIA report.
xxii. Impact of the project on the AAQ of the area. Details of the model used and the input data used for modeling should also be provided. The air quality contours may be plotted on a location map showing the location of project site, habitation nearby,

sensitive receptors, if any. The wind roses should also be shown on this map. Levels due to radioactive releases should also be predicted and radiation dose there from at the fence post should also be worked out.

xxiii. Source of water and its availability. Commitment regarding availability of requisite quantity of water from the competent authority. Efforts should be made to reduce water consumption. Water balance cycle indicating clearly water intake, recycle/reuse in the process/green belt development and discharge. It may clearly be stated whether any groundwater is to be used in the project or township. If so, detailed hydro-geological study should be carried out. Otherwise, commitment that no ground water will be used for the project related activities and township.

xxiv. Details of rainwater harvesting during construction and operation phase.

xxv. Impact of the thermal discharge on the aquatic life should be studied in detail. In this regard, information from some existing operating units should also be given in terms of the thermal range which is normally achieved in such power plants.

xxvi. Modeling study should be carried out to determine the impact zone due to thermal discharge.

xxvii. Impact of the project on any other community, if any, should be clearly brought out in the EIA report along with necessary mitigation / safeguard measures.

xxviii. Details of water balance taking into account reuse and re-circulation of effluents.

xxix. Details of dredging involved, if any, and disposal / management of dredged material should be given in the report.

xxx. Details of green belt in 33 % area i.e. land with not less than 1500 trees per ha giving details of species, width of plantation, planning schedule etc.

xxxi. Detailed Rehabilitation and Resettlement (R&R) plan/compensation package in consonance with the National / State R&R Policy for the project affected people including that due to fuel transportation system/pipeline and their ROW, if any, shall be prepared taking into account the socio-economic status of the area, homestead oustees, land oustees, landless laborers. R & R plan should be as per LARR-2013.

xxxii. Details of flora and fauna duly authenticated should be provided.

xxxiii. Project involves scheduled fauna (Black buck and Chinkara) in the study area. Conservation plan should be prepared in consultation with State Wildlife Department and included.

xxxiv. Details regarding waste management, liquid and solid waste (conventional and radioactive) should be given in the EIA report.

xxxv. Details regarding storage and management of spent fuel should be given.

xxxvi. Details regarding storage of hazardous chemical including maximum inventory to be stored at any point of time should be given.

xxxvii. Detailed risk assessment and disaster management plan should be given. The risk contours may be plotted on location map. The impact of the highest high tide on the proposed facilities should also be discussed in the EIA report.

xxxviii. Issues relating to de-commissioning of the plant and the related environmental issues should be discussed.

xxxix. Demographic data of the study area as well as pre-project health survey of the population in study area around the project site should be collected.

xl. Detailed environmental management plan to mitigate the adverse environmental impacts due to the project should be given. It should also include possibility of use of solar energy for the project including measures for energy conservation.

xli. Details of post-project monitoring should also include in the EIA report.

xlii. Details regarding infrastructure facilities such as sanitation, fuel, rest room, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

xliii. Public hearing issues raised and commitment of the project proponent on the same. An action plan to address the issues raised during public hearing and the necessary allocation of funds for the same should be provided.

xliv. Measures of socio-economic influence to the local community proposed to be provided by project proponent. As far as possible, quantitative dimension to be given.

xlv. Impact of the project on local infrastructure of the area such as road network and whether any additional infrastructure would need to be constructed and the agency responsible for the same with time frame particularly keeping in view the transportation of over sized consignments should be given.
xlvi. EMP to mitigate the adverse impacts due to the project along with item-wise cost of its implementation.
xlvii. Budget allocation for CSR activities and details of activities to be carried out.
xlviii. Any litigation pending against the project and /or any direction /order passed by any Court of Law against the project, if so, details thereof.

TORs for township:

i. A site plan showing the project site and its surroundings with physical features and topographical details, such as land use, contours and drainage pattern, along with photographs of the site from all four sides, shall be examined in detail.
ii. If the site is low lying and will require extra earth, examine the quantity required and identify the area from where the earth will be borrowed and whether any permission will be required or not.
iii. Examine in detail the proposed site with reference to impact on infrastructure covering water supply, storm water drainage, sewerage, power, etc., and the disposal of treated/ raw wastes from the complex on land/water body and into sewerage system.
iv. Consider soil characteristics and permeability for rainwater harvesting proposals, which should be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rainwater.
v. Provision should be made for guard pond and other provisions for safety against failure in the operation of wastewater treatment facilities. Identify acceptable outfall for treated effluent.
vi. Examine existing education and health facilities, police and other services and include adequate provisions in the proposal.
vii. Study the existing flora and fauna of the area and the impact of the project on them.
viii. Landscape plan, green belts and open spaces should be described.
ix. Assess soil erosion in view of the soil characteristics, topography and rainfall pattern.
x. Application of renewable energy/alternate energy, such as solar and wind energy may be described including solar water heating. Provide for conservation of resources, energy efficiency and use of renewable sources of energy in the light of ECBC code.
xi. Arrangements for waste management may be described as also the common facilities for waste collection, treatment, recycling and disposal of all effluent, emission and refuse including MSW. Identification of recyclable wastes and waste utilization arrangements may be made.
xii. Traffic management plan including parking and loading / unloading areas may be described. Traffic survey should be carried out both on weekdays and weekend.
xiii. Use of local building materials should be described.
xiv. Application of resettlement and rehabilitation policy may be described. Project affected persons should be identified and rehabilitation and resettlement plan should be prepared.
xv. Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan.
xvi. Examine and prepare in detail the Disaster Management Plan and emergency Evacuation Plan for natural and manmade disasters like earthquakes, cyclones/flooding, Tsunami and terrorists attack.

6. Besides the above, the below mentioned points will also be followed:-
   a) All the information contained in various project documents should be rechecked and reconciled.
   b) All documents to be properly referenced with index, page numbers and continuous page numbering.

c) Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.

It was decided that TORs prescribed by the Expert Appraisal Committee (Nuclear) should be considered for preparation of draft EIA/EMP report for the above mentioned project in addition to all the relevant information as per the Generic Structure of EIA given in Appendix III and IIIA in the EIA Notification, 2006. The prescribed ToRs would be *valid for a period of two years* for submission of the EIA/EMP Reports. The draft EIA/EMP report should be submitted to Rajasthan State Pollution Control Board for conducting public hearing as per EIA Notification, 2006. The final EIA/EMP report alongwith Certificate of Accreditation issued by the QCI should be submitted to the Ministry for obtaining environmental clearance.

(Dr. P. B. Rastogi)
Director

Copy to:-

1. The Secretary, Department of Environment, Govt. of Rajasthan, Jaipur, Rajasthan.
2. The Chairman, Rajasthan Pollution Control Board, 4, Jhalana Institutional Area, Jhalana Doongri, Jaipur - 302 004, Rajasthan
3. The Additional Principal Chief Conservator of Forests (Central), Ministry of Environment and Forests, Regional Office (Central Region), Kendriya Bhawan, 5th Floor, Sector "H", Aliganj, Lucknow - 226 024, Uttar Pradesh.
4. The Secretary, Department of Atomic Energy, Anushakti Bhawan, Chhatrapati Shivaji Maharaj Marg, Mumbai-400 001, Maharashtra
5. Guard File.

3/6/14

(Dr. P. B. Rastogi)
Director

By Speed Post

F. No. J-14011/2/2014-IA-II (N)

Government of India
Ministry of Environment, Forest and Climate Change
(IA Division)

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Dated 25th October, 2016

To,

Shri M Rama Somayajulu
Chief Engineer (HSE),
National Power Corporation of India Ltd.
Nabhikya Urja Bhavan, Anushaktinagar,
Mumbai – 400 094, Maharashtra

Subject: Mahi Banswara Rajasthan Atomic Power Project (4x700 MWe PHWR) at District Banswara, Rajasthan by Nuclear Power Corporation of India Ltd. (NPCIL) – reg. - Extension of validity of Terms of Reference (TOR)- reg.

Sir,

The undersigned is directed to refer to your communication no. NPCIL/CE(HSE)/MBRAPP/M/2016 dated 01.06.2016 with regard to extension of validity of the Terms of Reference (TOR) granted to the above mentioned project vide even no letter dated 05.06.2014 which was valid upto 04.06.2016.

2. The request was considered by the Expert Appraisal Committee for Nuclear, Defence and Related Projects in its 11th meeting held on 27th September, 2016. Based on the information furnished, discussions held and the Committee's recommendation the validity of Terms of Reference (TOR) is extended up to 04.06.2017.

(Rita Khanna)
Scientist 'F'